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TITLE : HYDROGEN STORAGE NI-ZR ALLOY

ABSTRACT : PURPOSE: To obtain a hydrogen storage Ni-Zr alloy having an $MgZn_2$ type crystalline structure, i.e., a hexagonal C14 type crystalline structure and particularly suitable for the active material in the negative pole of a closed type Ni- hydrogen storage battery by adding specified alloy elements to Ni.

CONSTITUTION: This hydrogen storage Ni-Zr alloy has a compsn. contg., by weight, 10 to 37% Zr, 5 to 25% Ti, 4 to 20% Mn, 0.01 to 5% Fe, 0.001 to 0.5% Pt or Au, 0.1 to 15% V, 0.01 to 4.5% Al and 0.01 to 13% W, furthermore contg., at need, one or two kinds of 1 to 7% Cu and 0.05 to 6% Cr and the balance Ni with inevitable impurities and has an $MgZn_2$ type crystalline structure. At the time of using the alloy as the active material in the negative pole of a closed type Ni-hydrogen storage, it has high energy density and electric capacity, shows a long cycle life, furthermore small in self-discharge and also excellent in charging-discharging properties at high rates.

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